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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/632,011	07/28/2000	Maria G. Medeiros	79826	9700

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Office Of Counsel Bldg 112T
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EXAMINER

LEADER, WILLIAM T

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 09/18/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/632,011

Applicant(s)

MEDEIROS ET AL.

Examiner

William T. Leader

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 4-6 and 10-12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by the Cox et al article "Voltammetric Reduction and Determination of Hydrogen Peroxide at an Electrode Modified with a Film Containing Palladium and Iridium."

3. In the experimental section of the article, Cox et al describe the preparation of an electrode. A glassy carbon substrate 3.0mm in diameter was provided. A plating solution comprising 0.2 mM Na_2IrCl_6 , 0.1 mM PdCl_2 , 0.2 M K_2SO_4 , and 0.1 M HCl was provided. Cyclic voltammetry was conducted between 1.2 and -0.3 V at 50 mV s⁻¹ to deposit a film containing palladium and iridium. Thus, both steps recited in instant claim 1 are taught by Cox et al. Glassy carbon is a high density carbon as recited in instant claim 2.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cox et al in view of Saban et al (6,110,354), Oskam et al (6,309,969) and the Lowenheim text *Electroplating*.

7. The Cox et al article is taken as above. Claim 7 is similar to claim 1 but recites the use of controlled potential coulometry in place of cyclic voltammetry.

Thus, claim 7 differs from the teaching of the Cox et al article by reciting the use of controlled potential coulometry. The Saban et al patent is directed to the use of electrochemical techniques for measuring the amount of an anolyte. Saban et al disclose the alternative use of cyclic voltammetry and controlled potential coulometry (column 14, lines 10-22). The Oskam et al patent is directed to a process for the electrochemical deposition of a metallic coating. Oskam et al teach that the deposition may be performed using a controlled constant voltage (column 6, lines 10-14). Lowenheim teaches that the total quantity of electricity passed during an electrolytic process should be known, and that a coulometer provides the most accurate measurement (pages 165, 13). The prior art of record is indicative of the level of skill of one of ordinary skill in the art. It would have been obvious at the time the invention was made to have utilized controlled potential coulometry rather than cyclic voltammetry to have deposited a coating containing palladium and iridium as taught by Cox et al because controlled potential coulometry is recognized as an alternative electrochemical process as shown by Saban et al, and the use of controlled constant potential and coulometry are useful in depositing a metallic coating as shown by Oskam et al and Lowenheim.

8. Claims 3 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Cox et al in view of Saban et al (6,110,354), Oskam et al (6,309,969) and Lowenheim as applied to claims 7 and 8 above, and further in view of Denton et al (6,010,606).

9. Claims 3 and 9 differ from the process of Cox et al by reciting that the carbon substrate is in the form of carbon paper. The Denton et al reference is directed to electrodes and discloses that it is known to deposit catalyst layers onto a carbon paper substrate (column 2, lines 35-49). It would have been obvious to have utilized carbon paper as a substrate for an electrode coated with a deposit of palladium and iridium because carbon paper is recognized as a suitable form of carbon on which catalytic deposits may be formed as shown by Denton et al.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Lin et al patent (5,578,175) is directed to a process for making an electrode by electrochemically depositing a palladium and iridium-containing coating. A substrate is subjected to cyclic voltammetric coating in a solution containing K_2IrCl_6 in a concentration of about 0.05 mM to about 0.2 mM, $PdCl_6$ in a concentration of about 0.1 mM to about 0.4 mM, K_2SO_4 in a concentration of about 0.2M and HCl in a concentration of about 0.1 M. See example 1.

1. Claims 4-6 and 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record does not suggest the use of a solution with the specific components and concentrations recited in claims 4 and 10. In the process disclosed by the Cox et al article, the concentrations of the palladium and iridium salts were only one tenth as large as the concentrations recited in the instant claims. Additionally, the concentrations of the palladium and iridium salts are significantly greater than those disclosed by Lin et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William T. Leader whose telephone number is 703-308-2530. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on 703-308-1146. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

WL

William Leader
September 8, 2003

ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700